

Patent claims

1. A method for producing a cylindrical sliding surface (1) with a bearing axis (1.3) by arc spraying of material particles of an Fe-based alloy, characterized in that the sliding surface (1) is applied by a rotating spraying tool, and the microstructure of the sliding surface (1) is oriented in the circumferential direction (7) or is oriented so as to deviate by at most 45° from the circumferential direction (7) with respect to the bearing axis (1.3).
2. The method as claimed in claim 1, characterized in that 95 to 100% of all the material particles to be sprayed are melted, and after the spraying operation recesses (1.1) or valley structures are produced in the sliding surface (1) and/or on the surface (1.2) by precision turning.
3. The method as claimed in claim 1 or 2, characterized in that the sliding surface (1) and the recesses (1.1), after the precision-turning operation, are machined by a microfinishing process, such as, for example ceramfinishing.
4. A sliding surface (1) of a bearing, which has been applied by arc spraying to a support surface (2), the sliding surface (1) being formed from an Fe-based alloy, characterized in that the sliding surface (1), in the region of a surface (1.2) has a valley structure formed from recesses (1.1), the recesses (1.1) forming a flow obstacle (4) and having an orientation (8) with respect to a bearing axis (1.3) which deviates by at most 45° from the circumferential direction

(7).

5. The sliding surface (1) of a bearing as claimed in claim 4, characterized in that the recesses (1.1) form an oil-holding volume which amounts to between 0.01 and 2 mm³ per cm² of surface (1.2).
6. The sliding surface (1) of a bearing as claimed in claim 4 or 5, characterized in that the extent of the flow obstacle (4) formed by the surface (1.2) of the sliding surface (1) has a mean Peklenit factor of less than 1.
7. The sliding surface (1) of a bearing as claimed in one of claims 4 to 6, characterized in that the sliding surface (1) is formed from a molybdenum-free Fe-based alloy and/or is formed from an Fe-based alloy which contains between 0.8 and 0.9% of carbon.
8. The sliding surface (1) of a bearing as claimed in one of claims 4 to 7, characterized in that the sliding surface (1) has a roughness of between 0.1 and 0.5 mm following the spraying and precision-turning operations.
9. The sliding surface (1) of a bearing as claimed in one of claims 4 to 8, characterized in that the sliding surface (1) has a roughness value of between 0.01 and 0.03 mm following the spraying and precision-turning operations.
10. The sliding surface (1) of a bearing as claimed in one of claims 4 to 9, characterized in that the sliding surface (1)

is designed as a running sleeve for a piston of an internal combustion engine, and the support surface (2) forms a cylinder wall of a cylinder casing.